

Appendix 6-1 PROGRAM CHANGE ANALYSIS DOCUMENTS

Program Change Analysis

One of the major pieces of the Supplement Analysis is the change analysis for the different programs that were addressed by the 1995 EIS. The change analysis is a disciplined approach to determining what has changed over the last five years in each of the programs. These changes were then evaluated to determine whether the program changes have resulted in potential environmental impacts that are different than were previously reported or whether those changes are expected to produce impacts different than were previously reported.

The method by which the change analysis was done looked at four important pieces of information. First is a review of the portion of the program was covered by the 1995 EIS, second is a review of the current status of the program, third is a description of the major changes in the program, and fourth is an evaluation of the environmental impacts of those changes. The environmental impacts were evaluateded on a qualitative basis for each discipline (i.e. air, water, land use, etc.) Appendix 6-3 was developed to determine where environmental changes have taken place. The summary statements from Appendix 6-3 are the same as the summary statements that are given here.

In order to completely capture the scope of each program, the above analysis was completed by program and organized by 1) projects that were included, 2) other program elements not included in the specific projects, 3) program elements that were not addressed in the 1995 EIS, and 4) proposed major projects.

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1.0 DECONTAMINATION AND DECOMMISSIONING

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I	Projects Analyzed in the 1995 EIS			
1	C-2.5 Auxiliary Reactor Experiment (ARA-II) D&D: This project includes decontamination and decommissioning of the ARA-II facilities.	D&D&D completed as a partial Entombment in 1999 under a 1993 NEPA EA/FONSI.	With the exception of the schedule changes, the Environmental Impacts and Project Data Sheet in the EIS bounded the activity.	Impacts are no different than previously analyzed
2	C-2.6 Boiling Water Reactor Experiment (BORAX-V) D&D: This project includes decontamination and decommissioning of the BORAX-V facilities.	D&D&D completed as a partial Entombment under a series of NEPA Categorical Exclusion.	With the exception of the schedule changes, the Environmental Impacts and Project Data Sheet in the EIS bounded the activity.	Impacts are no different than previously analyzed
3	C-4.2.1 Central Liquid Waste Processing Facility D&D: This project included the removal of radioactive liquid waste tanks and associated piping from the basement of the ANL-W Analytical Laboratory Building. The tanks were formerly used in a radioactive liquid evaporation system that was replaced by a newer system in 1984. The project included decontamination of the rooms that formerly housed the tanks.	This project was completed in October of 1997 and was the same as the project described in section C-4.2.1 of the 1995 EIS. The project was categorically excluded from further NEPA review by DOE-CH in April of 1997.	Since release of the ROD, there have been no operational differences.	Impacts are no different than previously analyzed

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4	C-4.2.2 Engineering Test Reactor (TRA-642) D&D: This project includes decontamination and decommissioning of the TRA-642 facilities.	D&D currently scheduled to begin in FY'05 with completion TBD (based on funding)	With the exception of the schedule changes, the Summary of Environmental Impacts and Project Data Sheet included in the EIS bound the activity with the exception of ground water impacts.	Impacts may be different than previously analyzed due to ground water impacts.
5	C-4.2.3 Materials Test Reactor (TRA-603) D&D: This project includes decontamination and decommissioning of the TRA-603 facilities.	Deactivation of the MTR Canal is currently scheduled to begin in FY'03 through FY'04. D&D is currently To Be Determined.	With the exception of the schedule changes, the Summary of Environmental Impacts and Project Data Sheet included in the EIS bound the activity with the exception of ground water impacts.	Impacts may be different than previously analyzed due to ground water impacts.
6	C-4.2.4 Fuel Processing Complex (CPP-601) D&D: This project includes decontamination and decommissioning of the CPP-601 facilities.	Deactivation/Closure planned FY'04 through approximately FY'10	With the exception of the schedule changes, the Summary of Environmental Impacts and Project Data Sheet included in the EIS bound the activity with the exception of ground water impacts.	Impacts may be different than previously analyzed due to ground water impacts.
7	C-4.2.5 Fuel Receipt and Storage Facility (CPP-603) D&D: This project includes decontamination and decommissioning of the CPP-603 facilities.	Deactivation has been initiated with the project scheduled from FY'01 to FY'11. NEPA EA is currently under preparation with FONSI, expected May 2001.	With the exception of the basin water being allowed to evaporate rather than transferred to the PEW, the Summary of Environmental Impacts and Project Data Sheet included in the EIS bound the activity with the exception of ground water	Impacts may be different than previously analyzed due to ground water impacts.

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			impacts.	
8	C-4.2.6 Headend Processing Plant (CPP-640) D&D: This project includes decontamination and decommissioning of the CPP-640 facilities.	Due to common walls, roof, ventilation, and utilities, will be Included as part of the Fuel Processing Complex activities FY'04 - FY'10.	With the exception of the schedule changes, the Summary of Environmental Impacts and Project Data Sheet included in the EIS bound the activity with the exception of ground water impacts.	Impacts may be different than previously analyzed due to ground water impacts.
9	C-4.2.7 Waste Calcine Facility (CPP-633) D&D: This project includes decontamination and decommissioning of the CPP-633 facilities.	D&D&D completed June 1999 as a HWMA/ RCRA Closure to 40CRF265.310 Landfill Standards supported by a NEPA EA/FONSI for the project that tiered down from the '95 EIS.	The project grouted the facility in-place and resulted in no liquid decon waste and only minor volumes of LLW or MLLW were generated with minor worker rad exposure.	The implemented D&D strategy was not addressed in the 1995 EIS. Entombment of the facility resulted in less radiological exposure but left radiological wastes in the ground.
II	Balance of the Program in the 1995 EIS			
	General description of the D&D program and the process used to transition facilities from operational facilities through the D&D process.	This process has not appreciably changed from what was described.	No major changes.	Impacts are no different than previously analyzed
III	Other parts of the program not analyzed in the 1995 EIS			
1		The Decontamination and Dismantlement (D&D) Program process application affected a direct pathway to facility removal and reduced S&M		

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		liability and cost. The merging of Deactivation with D&D; i.e., D&D&D introduced an intermediate step for hazard elimination and waste removal rendering the facility safe and stable with reduced S&M while awaiting D&D. The merging of D&D&D has included the dispositioning of non-contaminated facilities previously under the Facility Disposition Initiative (FDI). These changes have not altered the application of the D&D&D process. The process is applied by a graded approach based on the facility/site conditions.		
2		The 1995 EIS did not address ground water impacts of D&D decisions. This is only important when a significant source term is being left in the ground as a part of the decision. The important aspects of this are the cumulative impacts from the decision with other current or planned ground water impacts.		
IV	Proposed major projects			
			Long-range planning through 2045 involves D&D&D	

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			application to in excess of 800 facilities. Short-term planning through 2006 could involve 5 - 10 facilities/sites depending on risk and funding. These projects are identified in the INEEL Infrastructure Long-Range Plan.	

2.0 ENVIRONMENTAL RESTORATION PROGRAM

2.1 Environmental Restoration Program Change Analysis

Item No.	1995 EIS Section Number and Scope of Program	Scope of Program As It Exists Today	Major Differences in Operations (1995 vs. Current)	Environmental Impact of Operational Changes
I	Projects Analyzed in the 1995 EIS			
1	<p>C-2.2 Remediation of Groundwater Contamination: The proposed general project objective of the Remediation of Groundwater Contamination Project is to reduce contamination in the vicinity of an injection well that is located in the Test Area North Technical Support Facility.</p> <p>This project would reduce the concentrations of trichloroethylene, tetrachloroethylene, dichloroethylene, lead, strontium-90, and other contaminants in the groundwater surrounding the TSF-05 injection well at the Technical Support Facility.</p>	<p>The proposed general objective of the remediation has not changed.</p> <p>The project described is more accurately referred to as OU 1-07B.</p> <p>The objective of the OU 1-07B Record of Decision (ROD) signed in August 1995 was to reduce contaminant levels in the groundwater to drinking water standards (MCLs) by 2095 using plume extraction and treatment combined with hydraulic containment.</p> <p>The current remediation approach is enhanced bioremediation of the hot spot at the site of injection combined with pump and treat of the medial portion of the plume and monitored natural attenuation of the distal portion of the plume.</p>	<p>The project description given in the previous EIS is dated. The ROD was changed by an Explanation of Significant Difference (ESD) signed in November 1997 (INEEL/EXT-97-00931). The implementation of phases A and B, as described in the ROD, generated new information concerning the effectiveness of hot spot removal, plume definition, schedule and waste management requirements. The ESD defined treatability studies to determine if in-situ bioremediation or in-situ chemical oxidation would be more effective approaches to achieving the objectives of the ROD. The bioremediation treatability study was very successful.</p>	<p>Alternate ground water cleanup methods have resulted in positive impacts</p>

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		<p>This remedy is more completely described in a Proposed Plan ("Proposed Plan for Operable Unit 1-07B - Final Remedial Action at the TSF Injection Well (TSF-05) and the Surrounding Groundwater Contamination (TSF-23)") sent out for public comment in November 2000. An amendment to the 1995 OU 1-07B ROD is expected to be signed in October 2001 after public comments on the proposed plan are fully considered.</p>		
2	<p>C-2.3 Pit 9 Retrieval: This project has been previously evaluated (DOE 1993a) and approved with a Finding of No Significant Impact (issued September 29, 1993). It was expected to be operable as of August 1996.</p> <p>This Pit 9 Interim Action would excavate and treat wastes contaminated with radioactive and hazardous substances disposed of at Pit 9 of the Subsurface Disposal Area of the RWMC. Included</p>	<p>The project described in the previous EIS is more accurately referred to as OU 7-10, which is the name of the CERCLA unit. Some documents have referred to this CERCLA unit as "Alt. Pit 9," although OU 7-10 is the preferred title. It involves the remediation of soils and buried waste in one pit of the subsurface disposal area of the RWMC.</p> <p>The current scope and objectives are best described in "Explanation of Significant</p>	<p>The proposed general objectives of Pit 9 remediation have not changed but the relationship of the Pit 9 remediation to the remediation of the entire subsurface disposal area has changed.</p> <p>The Pit 9 Interim Action Record of Decision was implemented through a 1994 fixed price subcontract with Lockheed Martin Advanced Environmental Systems. The contract was terminated for default by the INEEL</p>	<p>The impacts are due to the project being partially completed</p>

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	<p>in the project</p> <p>would be the design, construction, and operation of a double-containment retrieval enclosure, treatment facilities, waste storage facilities, and an office facility for project personnel.</p>	<p>Differences for the Pit 9 Interim Action Record of Decision at the Radioactive Waste Management Complex (September 1, 1998)." At this time it is not possible to forecast which wastes will be retrieved and which wastes will remain.</p> <p>The current sub-project, OU 7-10 Staged Interim Action has completed Stage I characterization of Pit 9 and delivery to the regulators of a retrieval system design to demonstrate retrieval of a 20 x 20 ft section of the pit.</p> <p>Stage II of the sub-project involves constructing the retrieval system and demonstrating retrieval. Stage III is the remediation of the entire pit.</p> <p>The comprehensive RI/FS is scheduled for delivery to the regulators for review in March 2002. The retrieval system design can not be implemented quickly enough to provide soil or waste samples to support</p>	<p>Management and Operations contractor in 1998. No retrieval or treatment of Pit 9 waste has occurred.</p> <p>The ROD was changed through an Explanation of Significant Difference (ESD) in January 1995 and changed again through an Explanation of Significant Difference in September 1998.</p> <p>The January 1995 ESD addressed cost estimates that had increased significantly for the selected remedy identified in the Pit 9 ROD. The ESD was implemented to present revised project cost estimates, including additional costs identified in the firm fixed-price subcontract for the operations, maintenance and capital cost elements.</p> <p>The September 1998 ESD addressed the fact that the INEEL management and operating contractor (LMITCO) had terminated the subcontract to the Pit 9 remediation contractor</p>	

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		<p>RI/FS analysis. The DOE has requested a schedule extension that would permit demonstration of retrieval after the RI/FS is submitted and allow resources to be concentrated on the RI/FS.</p> <p>The Comprehensive ROD for WAG 7 will incorporate the remediation of Pit 9 and Pad A (OU 7-09) since any remedial approach will, at the least, involve a cap over the entire subsurface disposal area to prevent surface water infiltration. The schedule for specific actions required by the Pit 9 ROD is under discussion with the regulators.</p>	(LMAES) for default. DOE adopted a contingency plan that would allow the DOE to meet its obligations for the remediation of Pit 9, without the participation of the subcontractor.	
3	C-2.4 Vadose Zone Remediation: The proposed general objective of the Remediation of Organic Contamination of the Vadose Zone Project is to prevent organic contaminant migration to the Snake River Plain Aquifer in groundwater contaminant concentrations	<p>The proposed general objective of the remediation has not changed.</p> <p>The project described in the previous EIS is more accurately referred to as OU 7-08. It is the remediation of volatile organic compounds from the vadose zone beneath the subsurface</p>	Since release of the ROD, there have been no operational differences.	Impacts are no different than previously analyzed

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	<p>exceeding acceptable risk levels and/or Federal and State maximum contaminant levels.</p> <p>These contaminants are primarily volatile organic contamination found in the unsaturated hydrogeologic zone (vadose zone) beneath the Subsurface Disposal Area of the RWMC at the INEEL. The action is to remove and treat vapors of volatile organic contaminants from soils and underlying rock. Cleanup goals would be established as vadose zone contaminant concentrations that would not result in groundwater contaminant concentrations exceeding maximum contaminant levels or resulting in unacceptable risks to future groundwater users.</p>	<p>disposal area of the RWMC.</p> <p>The proposed actions described in the previous EIS were implemented and are continuing. Volatile organic compounds (VOCs), primarily carbon tetrachloride, trichloroethylene, tetrachlorethylene and 1,1,1-trichloroethane, are vacuum extracted from the vadose zone beneath the subsurface disposal area and destroyed through catalytic oxidation. At the end of FY 2000, 80,211 pounds of VOCs had been removed and destroyed.</p> <p>Performance goals for the project cannot be identified as discrete contaminant concentrations in the vadose zone because of: 1) The complex relationship between vadose zone concentrations and future groundwater concentrations, and 2) The lack of regulatory driven standards for the contaminants of concern in vadose zone soils. Operations will cease when the agencies agree that</p>		

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		the remediation goals have been met.		
II	Balance of the Program in the 1995 EIS			
1	<p>The CERCLA process is a well-defined process for addressing environmental contamination. This process is identified in the 1995 EIS Section 2.2.6.1. This section lays out the basic process for performing remedial actions under CERCLA. The INEEL is divided into 10 Waste Area Groups to provide for more efficient management of these remedial actions.</p> <p>DOE has identified and currently is implementing the remediation process on areas at the INEEL site where hazardous substances have been or are suspected of having been released to the environment. Since 1986, about 500 suspected release sites have been identified at the INEL site for investigation. As of June 1994, over 270 of the suspected release sites</p>	<p>Four hundred and fifty nine (459) sites were identified in Table A.2 of the FFA/CO.</p> <p>Currently, 593 suspected release sites have been identified at the INEEL site for investigation. Four hundred and twenty two (422) of the suspected release sites have been designated as requiring no action, or no further action with institutional controls.</p> <p>A complete description of the ER program is available in Section 2.2 "Environmental Restoration Program Description."</p> <p>The following provides online information concerning the current state of specific remedial actions. The INEEL ER Disposition Maps are located at Internet Site: http://emi-</p>	<p>Additional sites have been identified and remediated reducing the amount of environmental contamination.</p>	<p>The ER program will cleanup environmental contamination and leave the environment in an approved long-term status</p>

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	had been proposed or designated as requiring no further action.	<p>web.inel.gov/dmaps2000.html followed by clicking on "ER" and then on "INEEL."</p> <p>The map provides information on Response Strategy, Media Type, Estimated Volume, Regulatory Process, Approved Decision, Processing, and Disposition.</p> <p>All project documents are considered to be part of the decision-making process. These documents are maintained in the "Administrative Record and Information Repository." This Repository is located at Internet Site: http://ar.inel.gov/</p>		
III		Other Parts of the Program Not Analyzed in the 1995 EIS		
1		The groundwater analysis in the 1995 EIS did not address the CERCLA wastes. This risk to groundwater has now been addressed through the Composite Analysis Document ("Radioactive Waste Management Complex Low-Level Waste Radiological Composite Analysis," INEEL/EXT-97-01113,		

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		<p>September 2000). The WAG 7 RI/FS will do further analyses and modeling.</p> <p>The INEEL Consolidated Soils facility is planned as a part of the WAG 3 remedial action. This facility is built to RCRA subtitle C standards with a double liner, leachate collection system, and monitoring system for the disposal of contaminated soils from ER projects.</p>		
IV		Proposed Major Projects		
1		There are no planned major projects in the ER program that are not previously analyzed.		

2.2 Environmental Restoration Program Description

The Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA, also known as Superfund) is intended to provide response to, and cleanup of, environmental problems not adequately covered by permit programs of the many other environmental laws. The Superfund Amendments and Reauthorization Act of 1986 (SARA) amended some provisions of CERCLA including allowing state participation in the identification of sites for the National Priority List and stipulating public participation in the selection of proposed remedial actions.

The INEEL was placed on the Superfund National Priority List in 1989. **The Environmental Restoration Program is usually dated from the signing of the Federal Facility Agreement and Consent Order (FFA/CO) by EPA Region 10, the State of Idaho and DOE-ID in December 1991.** The FFA/CO established the process by which CERCLA has been applied to the INEEL. The site is divided into 10 Waste Area Groups (WAGs), one of each of the seven facility areas (including Argonne-West and the Naval Reactors Facility), one for the above ground areas between the facilities and one for the groundwater under the site. The later two WAGs have been combined as WAG 6/10. Each WAG is further divided into Operational Units and the OUs are a grouping of specific contaminated sites. Each site is identified, characterized and the level of risk determined. Some sites have been determined to have such low risk to the worker, public and the natural environment that no action or no further action will be taken beyond the initial characterization or corrective action. Other sites have been determined to have risk high enough to require remediation. The CERCLA program has a bias for action. Several interim actions were begun while other sites were being characterized. The remediation approach for each site requiring remediation is described in a Record of Decision signed by all three parties to the FFA/CO after public hearings and consideration of public comments. The public participation requirements of CERCLA are considered to be equivalent to those required by NEPA.

Separate NEPA documentation is not required for selection, documentation, and implementation of CERCLA actions. This is a result of a Secretarial Memorandum issued on June 13, 1994, and entitled "National Environmental Policy Act Policy Statement." Section 2.E. states, in part, " . . . the Department of Energy hereafter will rely on the CERCLA process for review of actions to be taken under CERCLA and will address NEPA values and public involvement procedures . . ." The section then explains the methodology to be followed to ensure that CERCLA documents fully incorporate NEPA values.

Comprehensive Records of Decision (ROD) will be agreed on for each WAG. At the end of FY 2000, Comprehensive Records of Decision had been signed for:

- WAG 1, Test Area North, 1999
- WAG 2, Test Reactor Area, 1997
- WAG 3, Idaho Nuclear Technology and Engineering Center (INTEC), 2000
- WAG 4, Central Facility Area, 2000
- WAG 5, PBF/ARA, 2000
- WAG 8, Naval Reactors Facility, 1998
- WAG 9, Argonne-West, 1998

Each of these WAGs is under active remediation. A Comprehensive ROD is scheduled for signature on the area between the facilities in FY 2002, and on WAG 7, the Radioactive Waste Management Complex in FY 2003. The soils within the tank farm area at INTEC were separated from the other contaminated areas in WAG 3. The decision on how to remediate these soils is being coordinated with the High Level Waste EIS that will determine the approach and schedule for remediation of the tanks themselves. The final approach to groundwater protection will probably be determined after the decisions are made for both the RWMC and the tank farm since these areas represent the greatest threat to the aquifer.

The details of each ROD and all the characterization and analysis leading to the ROD are available in the CERCLA Administrative Record. This extensive set of documents can be viewed online at <http://ar.inel.gov>.

It is also available in hard copy in the INEEL Environmental Restoration Program office.

In general, remediations address three different contaminated media at the INEEL:

- (1) The soils,
- (2) The interbeds and perched water in the vadose zone, and
- (3) The groundwater.

The program can be thought of as projects centered around the facility areas or as projects designed to remediate different media. Since the Administrative Record provides detail by the facility area, this section will summarize the program by media to provide a better understanding of the legacy issues.

2.2.1 Soil Remediation

Soils across the INEEL were contaminated by organic solvents, PCBs, RCRA listed metals and radioactive metals through spills, leaking transfer lines, shallow land burial waste disposal practices, septic system drain fields and liquid waste disposal ponds. Soils have been remediated in all of the INEEL WAGs. Remediation approaches have been:

- (1) Removal to off-site commercial facilities for small amounts of mobile contaminants.
- (2) Consolidation in the Idaho CERCLA Disposal Facility being built near INTEC for larger volumes of radioactively contaminated soils that meet the acceptance criteria
- (3) Capping of disposal ponds and drainfields.
- (4) Consolidation in the low-level waste cell at RWMC for soils and debris with low-level radioactive contamination.
- (5) Phytoremediation using plants to remove cesium from soil. The harvested plants are then disposed of either in a low-level waste landfill or in a municipal landfill.
- (6) Fencing and monitoring for sites with radioactive contaminants which will decay below levels of concern within the period of Federal control of the INEEL (a period assumed to be 100 years from the signing of the FFA/CO.)

All of the approaches that leave contamination in place include Institutional Control Plans formally agreed on in the RODs. All remediations are reviewed on a five-year schedule for effectiveness and continued protectiveness.

2.2.2 Vadose Zone

At RWMC and INTEC, surface releases of contamination have moved through the soils and are present in sufficient quantities in the interbeds at the 110 ft and 240 ft level to require specific remedial actions. At RWMC, the contaminants of concern are volatile organic compounds that were buried with the TRU wastes. These compounds are in the gaseous phase and are actively being removed through vapor extraction. At INTEC, the contaminants of concern are in solution in water perched under the facility above the 240 ft interbed. The remediation approach at INTEC is to dry out the vadose zone and trap the contaminants in place. The process water percolation pond and surface drainage through the tank farm soils were determined to be the major sources of water infiltration. Closure of the percolation pond by 2003 and changing surface drainage patterns are the current solution. If these are not sufficient to affect drying of the vadose zone, lining of the Big Lost River channel next to INTEC will be considered.

2.2.3 Groundwater

The groundwater beneath the INEEL was directly contaminated by injection wells used for waste disposal at TAN and INTEC. The resulting plume at TAN is primarily TCE with low levels of strontium and cesium. The area around the injection well is being remediated through bioremediation. The medial zone is being remediated by a pump and treat. The distal zone of the plume is being remediated through monitored natural attenuation.

Three separate contaminants from the INTEC injection well are being tracked: Iodine-129, Cesium and tritium. None of these contaminants is expected to reach the boundaries of the site at levels above drinking water standards. No active remediation approach is currently required.

Groundwater is monitored for nitrates in WAG 4 and for chromium in WAG 2.

Approximately 30 contaminants have been monitored in the groundwater beneath the Soil Disposal Area (SDA). This monitoring indicates that the groundwater beneath the SDA has been contaminated by several organic compounds that were buried in the SDA. More specifically, carbon tetrachloride, methylene chloride, and 1,1,1-trichloroethane have been detected in monitoring wells around the SDA at concentrations that equal or exceed drinking water standards. None of the contaminants beneath the SDA is expected to reach the boundary of the INEEL at concentrations that exceed these standards.

A more complete description of groundwater contamination that has been detected beneath the SDA can be found in Section 4.3 of DOE/ID-10569 (DOE, 1998, "Interim Risk Assessment and Contaminant Screening for the Waste Area Group 7 Remedial Investigation," DOE/ID-10569, August 1998).

2.2.4 Stewardship & Institutional Controls

The primary focus of stewardship in the INEEL's Environmental Restoration (ER) program is to ensure the remedies put in place through the CERCLA process remain protective of human health and the environment. To this end, institutional control plans are developed for each remediation project, in accordance with the CERCLA Records of Decision. These plans describe activities to control access to areas of residual contamination, conduct monitoring and surveillance of the remediated site, maintain any engineered controls such as landfill caps or containment structures, establish any appropriate land use restrictions, and retain and distribute

relevant information about the contamination and cleanup efforts, as well as other types of activities. The ER program also provides for 5-year reviews of the remedies, in accordance with CERCLA.

The ER program is currently developing a strategy to consolidate stewardship responsibilities and activities under one plan as remediation activities at each individual WAG reach completion. Following the first 5-year remedy review for each WAG, the monitoring and surveillance activities for that WAG will be turned over to the WAG 10 team (the sitewide WAG). Eventually, this will result in one consolidated ER monitoring program for the INEEL. Further incorporation of other stewardship activities identified in other programs, such as Waste Management, High Level Waste, Infrastructure, and Spent Nuclear Fuel, into one management structure is anticipated to occur as planning is refined. Eventually, the final suite of stewardship responsibilities for the entire INEEL will be managed under one comprehensive program.

3.0 HIGH LEVEL WASTE

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I	Projects analyzed in the 1995 EIS			
1	C-2.7 High-Level Tank Farm Replacement - Upgrade Phase (Ongoing Project): Planning for this project was addressed as an ongoing project, and project-specific NEPA analysis, although summarized in the 1995 EIS, was performed separately in EA-0831 (06/93) with a FONSI issued (06/01/95). Planning for this ongoing project is to design, construct, and start up modifications to the existing INTEC high-level waste tank farm ancillary systems. These modifications would (a) provide compliance with the Notice of Noncompliance Consent Order (NCO) [compliance date is December 31, 1995], (b) provide compliance with the Notice of Violation Consent Order (VCO) [compliance date is December 31, 1996], and (c) resolve other maintenance and ALARA issues. Detailed upgrade requirements and actions are the following: 1)	This project is to be implemented. The principal objective was to achieve compliant secondary containment for numerous valve boxes associated with the High-Level Waste liquid tank farm. Since the ROD was released the tank farm valve box and secondary containment upgrade was completed in December of 1995.	Since release of the ROD, there have been no operational differences.	Impacts are no different than previously analyzed

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	<p>Two valve boxes require secondary containment improvement. 2) Five valve boxes require a second form of leak detection. 3) Twenty-five valve boxes require replacement valves because of ALARA and other maintenance considerations. 4) Six valve boxes must have their tops raised to grade to accommodate the new valve systems and to allow the secondary containment improvements in two of the boxes. 5) The tile-encased pipe from Building CPP-641 to valve box C-29 must be replaced because of incompatibility of the secondary containment. 6) Tile-encased pipes at Building CPP-604 must be replaced because of incompatibility of the secondary containment. 7) The pressure/vacuum relief pipe from all eleven tanks must be replaced to resolve radiation safety and ALARA considerations. Project design was completed during the period 1991-1993. The construction contract was awarded in 1993.</p>			

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	Construction activities began in 1993 and will conclude in 1996.			
2	<p>C-4.3.1 Tank Farm Heel Removal Project: Pursuant to a Federal Facilities Compliance agreement among the EPA, the DOE, and the State of Idaho, use of five tanks must cease by March 2009, and of the remaining six tanks by June 2015. A RCRA closure of these eleven 300,000-gallon storage tanks and their ancillary systems located at the INTEC would be required following the cease-use provision. Planning for this project requires: (a) design, procurement, and installation of equipment and necessary tank system modifications to remove the 5,000-to 20,000-gallon heel (liquid and solids) from the storage tanks and transfer it to another tank or to the New Waste Calcining Facility (NWCF); and (b) support for subsequent closure. Construction and operational activities to accomplish this project were planned for the period 2000 - 2015.</p>	<p>This project is to be implemented as a result of the ROD. Since the release of the original ROD, planning has been impacted by the release of the HLW Draft EIS, EIS-0287D (12/99), and two modifications to the Notice of Non-compliance Consent Order (NON CO). In addition, this project has been incorporated into the Tank Farm Facility (TFF) RCRA closure program. Equipment to wash the solids and remove them with the existing or new jets is currently underway. The amended NON CO requires the pillar and panel tanks to cease use in 2003 and the rest of the tank farm in 2012. The TFF closure activities are scheduled to start in 2004 and complete in 2016.</p>	<p>Current planning requires the INEEL to end use of the first set of tanks six years earlier than originally planned, and the second set of tanks three years earlier than planned. However, construction and operational activities will take place during approximately the same time frame.</p>	<p>Impacts are no different than previously analyzed</p>

Item No.	1995 EIS Section Number and Scope of Program	Scope of Program As It Exists Today	Major Differences in Operations (1995 vs Current)	Environmental Impact of Operational Changes
3	<p>C-4.3.2 Waste Immobilization Facility: Planning for this project provides the processes and facilities to immobilize INTEC radioactive wastes (sodium-bearing liquid and solid calcine) into a form(s) suitable for permanent disposal at the geologic repository. The liquid sodium-bearing wastes are stored in the eleven 300,000-gal HLW tanks at the INTEC. The solid calcine material containing the encapsulated HLW residue is contained in the six partially filled calcine storage bins. Eight treatment options are analyzed utilizing four technologies and producing: 1) glass and grout, or 2) glass-ceramic waste forms. Planning and design activities would take place over the period 1996-2001. Construction would take place over the period 2002-2006. Operation of the resultant facility would be over the period 2008-2043. The waste form would be a mixed waste subject to RCRA and the FFCAct. The project is also subject to the terms of the</p>	<p>The decision of this project was deferred for a future determination, i.e., this project was not selected in the ROD, and there is no plan to move forward on this project. Since the release of the original ROD, planning has been impacted by the release of the HLW & FD Draft EIS, EIS-0287D (12/99). The project remains under active consideration. However, work will proceed only upon selection of the appropriate option in the HLW & FD ROD.</p>	<p>Since release of the ROD, there have been no operational differences.</p>	<p>This project was not selected for implementation in the ROD.</p>

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	Court Order of 12/22/93 (and amended in 06/28/93), and the Notice of Noncompliance Consent Order (04/03/92), and its modification of 03/17/94. Should the Department go forward with this project, additional NEPA review would be performed. The project would be constructed at INTEC.			
4	C-4.3.3 High-Level Tank Farm New Tanks: Planning for this project provides sufficient replacement storage capacity for high-level liquid waste should the Department determine the need for such capacity. Additional capacity comprises four 500,000-gal stainless-steel tanks residing within an appropriate secondary containment barrier. This project was previously analyzed in EA-0831 and a FONSI issued only for the upgrades discussed in item I.1 (Project C-2.7). Although this project was supported in the original Notice of Noncompliance issued by the EPA on 01/28/90, the project has been	This project was not selected in the ROD. It was not included within the preferred alternative, and there is no plan to move forward on this project. Currently within the HLW program there is no ongoing effort to augment the tank farm with new tanks. The program will stop sending liquid to the tank farm tanks in 2005. All newly generated waste evaporated bottoms will be stored in RCRA compliant tankage in CPP-604.	Since release of the ROD, there have been no operational differences.	This project was not selected for implementation in the ROD.

Item No.	1995 EIS Section Number and Scope of Program	Scope of Program As It Exists Today	Major Differences in Operations (1995 vs Current)	Environmental Impact of Operational Changes
	in suspense since the cessation of fuel reprocessing was implemented in 04/92. This EIS anticipated planning and design activities through the period 1995-1996, with construction during the period 1996-2000, and operations beginning in 2001. The project would be constructed at INTEC.			
5	C-4.3.4 New Calcine Storage: Planning for this project would provide the eighth Calcined Solids Storage Facility (or, storage bin set) to provide additional storage for calcine solids produced by the operation of the New Waste Calcining Facility (NWCF). This new storage capacity (63,000 cu ft) would be required to allow the continued processing of liquid wastes in the NWCF until the final waste form is established and implemented. This EIS anticipated planning and design activities through the period 2001-2004, with construction during the period 2004-2006. The project would be constructed at INTEC.	This project was not selected in the ROD. It was not included within the preferred alternative, and there is no plan to move forward on this project. Since release of the original ROD, planning has been impacted by promulgation of the MACT Rule (2000), and two modifications to the Non-compliance Consent Order (NON CO). Original planning required operation of the NWCF until the vitrification plant was on line and the additional bin set was needed. However, the EPA promulgated the MACT Rule. The MACT Rule, as incorporated into the NON CO, would require the NWCF to undergo extensive and costly modifications without	Since release of the ROD, there have been no operational differences.	This project was not selected for implementation in the ROD.

Item No.	1995 EIS Section Number and Scope of Program	Scope of Program As It Exists Today	Major Differences in Operations (1995 vs Current)	Environmental Impact of Operational Changes
		certainty in attaining the necessary operational parameters. Currently, the NWCF is not operating and the need for additional space is not required.		
6	C-4.3.5 Radioactive Scrap/Waste Facility: Planning for this project provides an upgrade to an existing Argonne National Laboratory-West (ANL-W) dry spent fuel storage facility to allow interim storage of high-level waste (HLW). The augmented facility, the Radioactive Scrap/Waste Facility (RSWF, ANL-771), would be the recipient of HLW from the spent nuclear fuel treatment operations of the Fuel Conditioning Facility. Construction activities include relocating steel cylindrical in-ground liners fabricated during the 1960-1978 time period into new cathodically protected steel liners installed in non-corrosive sand. The upgrades would occur within the existing facility fence. Upgrades would be complete and the facility operational during 1997.	The decision of this project was deferred for a future determination, i.e., this project was not selected in the ROD. Since release of the ROD, planning has been impacted by the release of two other documents: 1) EA-1148 (05/96) and 2) EIS-0306 (07/00). The upgrades were carried out as described in the 1995 EIS, and were completed in 1998.	The project was completed as described in the 1995 EIS and ROD. There are no differences in operations	Impacts are no different than previously analyzed

Item No.	1995 EIS Section Number and Scope of Program	Scope of Program As It Exists Today	Major Differences in Operations (1995 vs Current)	Environmental Impact of Operational Changes
7	C-4.10.1 Calcine Transfer Project (Bin Set #1): Planning for this project would provide the necessary facilities and equipment for the safe retrieval and transport of 8,000 cu ft of HLW calcine from existing storage at Bin Set #1 to a fully qualified second generation storage bin. Alterations would include erection of a containment structure, penetrations of the existing structure (vault), and pneumatic retrieval equipment. Planning and design activities would take place during the period 1994-1999. Construction activities would take place during the period 1999-2004, and transfer operations would take place during the period 2006-2007.	This project is to be implemented as a result of the ROD. Since the release of the original ROD, planning has been impacted by the release of the HLW Draft EIS, EIS-0287D (12/99). This project remains under consideration, however there is no activity.	Since release of the ROD, there have been no operational differences.	The impacts are a result of the project not being completed
II	<i>Balance of the Program in the 1995 EIS</i>			
	Since the HLW & FD EIS will significantly change the HLW program, it was not deemed necessary to perform this analysis.			
III		<i>Other Parts of the Program</i>		

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		<i>not Analyzed in the 1995 EIS</i>		
	Not Applicable			
IV		<i>Planned Major Projects</i>		
	Not Applicable			

4.0 INFRASTRUCTURE

Item No.	1995 EIS Section Number and Scope of Program	Scope of Program As It Exists Today	Major Differences in Operations (1995 vs. Current)	Environmental Impact of Operational Changes
I	Projects Analyzed in the 1995 EIS			
1	C-2.11 Health Physics Instrument Laboratory (HPIL): This project will provide the design, construction, and operation of a replacement facility to accommodate the Health Physics Instrument Lab at the INEEL. The project plans construction and operation of a technologically up-to-date replacement facility that will safely provide portable health physics monitoring instrumentation and direct reading dosimetry procurement, calibration, and maintenance, along with research and development support services to the INEEL and others.	The HPIL project is selected in the ROD as a planned project. Currently, the HPIL Line Item Construction Project is approved and funded. Construction began in the September 2000 and is scheduled to be completed in March 2003. Planned to be operational by May 2003. An EA was completed for this project titled, "HPIL Replacement of the Idaho National Engineering and Environmental Laboratory – (DOE/EA-1034), May 1995".	From a proposed and planned status in 1995, HPIL has moved into construction initiation in FY-2000.	Impacts are no different than previously analyzed
2	C-2.12 Radiological and Environmental Sciences Laboratory Replacement (RESL): This project was planned to provide for the design, construction, and	The RESL replacement project is selected in the ROD as a planned project. The ROD stated that further analysis might be needed. Final decisions will be made pending	No change. This project is still in the proposal/planning stage as a LICP for FY-2004.	Impacts are no different than previously analyzed

Item No.	1995 EIS Section Number and Scope of Program	Scope of Program As It Exists Today	Major Differences in Operations (1995 vs. Current)	Environmental Impact of Operational Changes
	operation of replacement test, office, and storage facilities with the capability to support environmental surveillance programs, oversee certain DOE contractor activities nationwide, and provide services as a DOE standardization laboratory. NEPA documentation for the project was essentially completed.	further project definition, funding priorities, and further reviews under NEPA. Currently, there has been no change in status from 1995.		
3	C-4.9.1 Industrial/Commercial Landfill Expansion: This project was proposed to provide an additional 225 acres of land for INEEL industrial solid waste disposal through the year 2025 as a minimum.	This project was selected in the ROD as a planned project. The landfill expansion was approved and public notification of the decision was performed in May 1999. Some expansion has taken place.	Landfill expansion has been analyzed and approved. The decision was made to proceed. Incremental increases have taken place to approximately 22 acres.	Impacts are no different than previously analyzed
4	C-4.9.2 Gravel Pit Expansions: This proposed project in 1995 was planned to expand existing gravel borrow pit operations to provide gravel and fill material for future road and other construction at the INEEL from 1995 to June 2005. Use considerations were for gravel and fill material in support of new construction projects. Existing pits include	This project was selected in the ROD as a planned project. The INEEL Road Rehabilitation Project (LIRP) is ongoing and used gravel from the Borax Pit. Various projects at TRA have used gravel from the nearby Monroe Blvd pit. Portions of both the Borax Pit and the TAN T-28 pit were graded, sloped, and seeded. Future gravel use is planned to be taken from the	The current gravel sources are identified in the 1995 EIS. There is no change.	The New Silt/Clay Source Development EA provided for impacts greater than previously analyzed

Item No.	1995 EIS Section Number and Scope of Program	Scope of Program As It Exists Today	Major Differences in Operations (1995 vs. Current)	Environmental Impact of Operational Changes
	a total of eight as follows: TAN pit, Lincoln Blvd pit, NRF pit, TRA/CPP pit, CFA pit, BWR pit, RWMC pit, RWMC Spreading Area B pit.	CFA pit and the Monroe Blvd. (TRA) pit. Removal of silt and clay from Spreading Area B has concluded, with seeding and reseeding being performed. Two additional areas for replacing Spreading Area B are being explored. New Silt/Clay Source Development and Use at Idaho National Engineering and Environmental Laboratory DOE/EA -1083 was completed for new silt/clay source development.		
5	C-4.9.3 Central Facilities Area Clean Laundry and Respirator Facility: This proposed project was planned to either resume operations, decontaminate and decommission the facility, or to decontaminate and reuse the building for another purpose.	This project was selected in the ROD as a planned project, however decisions regarding this project will be made in the future pending further project definition, funding priorities and any further appropriate review under NEPA. Currently the building is being decontaminated to prepare for either demolition or retrofit for another purpose.	Building is being decontaminated to prepare for future use options. Definite plans for future use have not been finalized.	Impacts are no different than previously analyzed
II	Balance of the Program in the 1995 EIS			
1	Replacing site wide capital equipment (GPCE): The General Purpose Capital Equipment (GPCE) program, annually prioritizes and	The GPCE program is funded approximately \$7M per year to purchase priority general-purpose equipment needs.	No change	Impacts are no different than previously analyzed

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	procures site wide multi-program equipment needs. Equipment needed for specific program requirements is purchased through the individual program.			
2	Environmental Monitoring & Quality Assurance: DOE has responsibility to provide environmental monitoring and ensure that quality control and quality assurance programs are in place.	Monitoring results are given in the discussion for each environmental discipline. The scope of both of these programs is ongoing and has not appreciably changed.	The environmental monitoring program has added monitoring wells as needed; there has been no significant change. The Quality Assurance program has advanced significantly with the implementation of the Price Anderson Rule and NRC QA requirements.	Impacts are no different than previously analyzed
3	Buildings and Facilities: The INEEL consists of a number of current facilities, buildings, roads, and utilities in support of program operations.	The INEEL consists of 533 buildings representing 5,018,635 square feet. The buildings are categorized as laboratories, service buildings, office/administrative buildings, production/plant space, storage facilities, and reactors. The overall condition of INEEL buildings is listed as good, with 71% of the square footage considered in fair to good condition. INEEL buildings range in age from new to 58 years old, with an average age of 24 years. (For more details see the "Infrastructure Long-	The number of buildings and building square footage on the site has increased since the 1995 EIS as accounted for in the project specific analysis. Where facilities have been built that were not included in the 1995 EIS, specific NEPA analysis was performed.	Impacts are no different than previously analyzed

Item No.	1995 EIS Section Number and Scope of Program	Scope of Program As It Exists Today	Major Differences in Operations (1995 vs. Current)	Environmental Impact of Operational Changes
		Range Plan", August 2000 INEEL/EXT-2000-01052).		
III		<i>Other parts of the program not analyzed in the 1995 EIS</i>		
1	The scope of the 1995 EIS did not cover all aspects of the Infrastructure program. The items that would fall into this category for the Infrastructure Program are outside the scope of this review.			
IV		<i>New Planned Major Projects</i>		
1	Not Addressed	<u>Planned Line Item Construction Projects are as follows:</u> Sitewide INEEL Information Network, Subsurface Geoscience Laboratory, INEEL Infrastructure Renovation, INTEC Cathodic Protection System Expansion, INTEC Consolidated Laboratory Facility, Flood Control Upgrades, and INTEC Fire Alarm Life Safety Upgrade. NEPA determinations will be completed for each project.	No change	